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10/533,665	05/03/2006	Dae Rae Lee	K-0717	6226

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EXAMINER	
BERNSTEIN, DANIEL A	
ART UNIT	PAPER NUMBER
3743	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/533,665	LEE ET AL.	
	Examiner	Art Unit	
	DANIEL A. BERNSTEIN	3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05/03/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-3,6,8-16 and 20-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☐ Claim(s) *1-3, 6, 8-16 and 20-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *05/03/2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 3 recites the limitation "the first and second exhaust" in line 3. There is insufficient antecedent basis for this limitation in the claim. The claim should read "the first and second exhaust **ducts**".

3. Claim 13 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The applicant recites that the front burners are "in" the front and rear burner housing and it is unclear how the front burners, which have a front burner housing, can also be located "in" the rear burner housing. The same is true for the rear burners, which the applicant has claimed that they are "in" the front and rear burner housings.

4. Claim 16 recites the limitation "the exhaust duct" in line 2. There is insufficient antecedent basis for this limitation in the claim. Although the applicant claims exhaust ducts in the preceding claim 12, it is unclear which exhaust duct is being referred back to in claim 16.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 6, 8-13, 16 and 20-29 rejected under 35 U.S.C. 102(b) as being anticipated by US 3,633,562 to Morse.

In regards to claim 1, Morse discloses an exhaust system in a radiation gas range (see Fig. 1), the exhaust system comprising: a housing (14) having exhaust openings (exhaust openings 26) in a rear part (26 are in a rear part of the stove) that discharge of exhaust gas, a cover (glass plate 30) on top of the housing that transmits radiant heat (Col. 1 lines 43-49) to an object placed thereon; front and rear burner housings (front burners 4 and 8 and rear burners 6 and 10) in contact with a bottom surface (glass plate 30 is directly above the burners and fits flush with flange 35, see Fig. 3) of the cover that form spaces to burn mixed gas therein (gasses are burned within the burners 4, 6, 8 and 10); front radiation gas burners (4 and 8) in the front burner housings respectively each burning mixed gas (gas enters burner through gas supply valve 42) at a surface (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30) of a radiation body (infrared burner element 41) to generate a radiation energy (energy radiates from the infrared burner element 41 in such a manner well known in the art); rear radiation gas (6 and 10) burners in (should be “and” instead of “in”?) the front burner housings respectively each burning mixed gas at a surface of a radiation body to generate a radiation energy (front burners and rear burners of Morse are radiant burners which inherently generate radiation energy); and an exhaust duct (first and second exhaust ducts as shown in annotated Fig. 3) in communication with

the front and/or rear burner housings that discharges exhaust gas from the front and rear radiation burners toward the exhaust openings (openings 52), wherein the exhaust duct includes: a first exhaust duct (see first exhaust duct in annotated Fig. 3 below) in communication with the front burner housings (the first exhaust duct of Morse is in communication with all the burner housings) ; and a second exhaust duct (second exhaust duct, annotated Fig 3) formed inside of (the second exhaust duct is formed inside of the first as shown in annotated Fig. 3), and separate from (the ducts as shown in annotated Fig. 3 are clearly separate from each other), the first exhaust duct in communication with the rear burner housings (the first exhaust duct is in communication with all the burner housings).

In regards to claim 6, Morse teaches the exhaust system as claimed in claim 1, wherein the second exhaust duct has a sectional area smaller than 1/2 of a sectional area of the first exhaust duct (see annotated Fig. 3 below where the second exhaust duct clearly has an exhaust duct half the sectional area of the first exhaust duct).

In regards to claim 8, Morse teaches an exhaust system (see Fig. 1) in a radiation gas range (gas range 2), the exhaust comprising: a housing (14) having exhaust openings (exhaust openings 26) in a rear part (26 are in a rear part of the stove) that discharge exhaust gas; a sheet of glass (glass plate 30) on top of the housing that transmits radiant heat (Col. 1 lines 43-49) to an object placed thereon; two front burner housings (front burners 4 and 8 and rear burners 6 and 10 have housings, see Fig. 1 and Fig. 3) and two rear burner housings (6 and 10) in contact with a bottom surface (30 is in contact with the burner housing see Fig. 3) of the sheet of glass that

form spaces to burn mixed gas therein (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30); two front radiation gas burners (4 and 8) and two rear radiation gas burners (6 and 10) in lower parts of the front and rear burner housings, respectively, each burning mixed gas at a surface (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30) of a radiation body (infrared burner element 41) to generate a radiation energy (energy radiates from the infrared burner element 41 in such a manner well known in the art); a first exhaust duct (see first exhaust duct in annotated Fig. 3 below) in lower parts of, and that passes through spaces between the front burner housings and between the rear burner housings (the first exhaust duct extends from the front of the stove housing to the back where exhaust from the burners pass through the first exhaust duct and exit at 26) in communication with the front burner housings (the first exhaust duct is in communication with all the burners, see annotated Fig. 3), that discharges exhaust gas (exhaust gas discharges from the burners through the second exhaust duct, annotated Fig. 3) from the front radiation burners toward the exhaust openings; and a second exhaust duct (second exhaust duct, Fig. 3) formed inside of (the second exhaust is inside of the first exhaust duct as shown in annotated Fig. 3), and separate from (the ducts as shown in annotated Fig. 3 are clearly separate from each other), the first exhaust duct in communication with the rear burner housings (the first exhaust duct is in communication with all the burner housings).

In regards to claim 9, Morse teaches the exhaust system as claimed in claim 8, further comprising a partition wall (partition wall, annotated Fig. 3 of Morse) at a central part of the first exhaust duct (the partition wall is substantially located at a central part of the first exhaust duct), that divides the first exhaust duct into two parts (the second exhaust duct with outer partition wall divides the first exhaust duct and there is a top space above the duct and a space below the duct), one of which communicates with the front burner housing on a left side (since the exhaust system shown in annotated Fig. 3 is open, each space of the first exhaust duct communicates with both the front and rear burner housings), and the other one of which communicates with the front burner housing on a right side.

In regards to claim 10, Morse teaches the exhaust system as claimed in claim 8, further comprising a partition wall (Fig. 1 and 2 show the second exhaust duct from a top view, the second exhaust duct is divided into two sections by a wall, each burner has its own outlet duct 50, Col. 2 lines 20-23) at a central part of the second exhaust duct (the second exhaust duct is divided into two separate sections as shown in Fig. 2), that divides the second exhaust duct into two parts, one of which communicates with the rear burner housing on a left side, and the other one of which communicates with the rear burner housing on a right side (the duct 50 of the front burner 4 delivers exhaust gas on the left side and the duct 50 for the rear burner 6 delivers exhaust gas on the right side, see Fig. 1 and 2).

In regards to claim 11, Morse teaches the exhaust system as claimed in claim 8, wherein the second exhaust duct has a sectional area smaller than 1/2 of a sectional

area of the first exhaust duct (see annotated Fig. 3 below where the second exhaust duct clearly has an exhaust duct half the sectional area of the first exhaust duct).

In regards to claim 12, Morse teaches an exhaust system (see Fig. 1) in a radiation gas range (gas range 2), the exhaust system comprising: housing (14) having exhaust openings (exhaust openings 26) in a rear part (26 are in a rear part of the stove) that discharge exhaust gas; a cover (glass plate 30) on top of the housing that transmits radiant heat (Col. 1 lines 43-49) to an object placed thereon; two front and rear burner housings (front burners 4 and 8 and rear burners 6 and 10 have housings, see Fig. 1 and Fig. 3) in contact with a bottom surface (30 is in contact with the burner housing see Fig. 3) of the sheet of glass cover that form spaces to burn mixed gas therein (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30); two front radiation gas burners (4 and 8) and two rear radiation gas burners (6 and 10) in the front and rear burner housings, respectively, each burning mixed gas at a surface (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30) of a radiation body (infrared burner element 41) to generate a radiation energy (energy radiates from the infrared burner element 41 in such a manner well known in the art); a central exhaust duct (exhaust duct 52) in communication with the front burner housing (each burner has its own duct 52) that guides exhaust gas from the front radiation gas burners to the exhaust openings (52 guides exhaust gas to the openings at 26), wherein the central exhaust duct is formed by the front burner housing (52 is integral and formed

as part of the front burner housing); and two rear exhaust ducts (the rear burners 6 and 10 each have exhaust ducts 52) in communication with the rear burner housings, respectively that discharge exhaust gas from the front radiation gas burners and the rear radiation gas burners toward the exhaust openings (exhaust gases meet and mix at the exit of 52 before being discharged out of openings 26. Since the exhaust system as shown in Fig. 1 is open, all the ducts are in communication).

In regards to claim 13, Morse teaches an exhaust system (see Fig. 1) in a radiation gas range (gas range 2), the exhaust system comprising: a housing (14) having exhaust openings (exhaust openings 26) in a rear part for that discharge exhaust gas; a cover (glass plate 30) on top of the housing that transmits radiant heat (Col. 1 lines 43-49) to an object placed thereon; a front and rear burner housing (front burners 4 and 8 and rear burners 6 and 10 have housings, see Fig. 1 and Fig. 3) in contact with a bottom surface (30 is in contact with the burner housing see Fig. 3) of the cover that form spaces to burn mixed gas therein (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30); front radiation gas burners (4 and 8) in the front and rear burner housing (see 112 second paragraph rejection above. There is no support in the applicants disclosure for the front and rear burners being located in both the front and rear burner housings. It is unclear what the applicant is attempting to claim), each burning mixed gas at a surface (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30) of a radiation body (infrared burner element 41) to generate a

radiation energy (energy radiates from the infrared burner element 41 in such a manner well known in the art); rear radiation gas burners (6 and 10) in the front and rear burner housing (see 112 second paragraph rejection above. There is no support in the applicants disclosure for the front and rear burners being located in both the front and rear burner housings. It is unclear what the applicant is attempting to claim), each burning mixed gas at a surface (gas is burned in cylindrical hot gas chamber 43 ignited by ignitor 49, that in turn heats up the side walls of the burner and transmits radiant heat to the glass plate 30) of a radiation body (infrared burner element 41) to generate a radiation energy (energy radiates from the infrared burner element 41 in such a manner well known in the art); and an exhaust duct (first exhaust duct, see annotated Fig. 3) that discharges exhaust gas from the front and rear radiation burners toward the exhaust openings (exhaust openings 26), wherein the exhaust duct is formed by the front and rear burner housing (the first exhaust duct is formed within burner housing 14).

In regards to claim 16, Morse teaches the exhaust system as claimed in claim 12, wherein the exhaust duct comprises two separate exhaust ducts (each burner in Fig. 1 and 2 of Morse has a separate exhaust duct 52) including a left exhaust duct (there are left side exhaust ducts 52 and right side exhaust ducts 52 in communication with the front and rear burners, see Fig. 1 and 2) in communication with the front burner and the rear burner housing on a left side and a right exhaust duct in communication with the front burner and the rear burner on a right side ("in communication" is a broad term and every duct of Morse is in communication since Morse teaches an open exhaust system without valving means).

In regards to claim 20, Morse teaches a radiation gas range comprising the exhaust system of claim 1 (see rejection of claim 1 and note that the stove assembly of Morse is a radiation gas range).

In regards to claim 21, Morse teaches a radiation gas range comprising the exhaust system of claim 8 (see rejection of claim 8 and note that the stove assembly of Morse is a radiation gas range).

In regards to claim 22, Morse teaches a radiation gas range comprising the exhaust system of claim 12 (see rejection of claim 12 and note that the stove assembly of Morse is a radiation gas range).

In regards to claim 23, Morse teaches the exhaust system of claim 12, wherein the cover comprises a sheet of glass (glass plate 30, Fig. 3, Morse).

In regards to claim 24, Morse teaches the exhaust system of claim 12, wherein the two front radiation burners (4 and 8) and two rear radiation burners (6 and 10) are provided in lower parts of the front and rear burner housings (front and rear burners of Morse are positioned under glass plate 30 in the lower part of the burner housings), respectively.

In regards to claim 25, Morse teaches the exhaust system of claim 12, wherein a partition wall (partition wall, annotated Fig. 3 of Morse) at a central part of the central exhaust duct divides the central exhaust duct into two parts (the duct has an outer partition wall as seen in annotated Fig. 3 and it divides the first exhaust duct into a upper and lower region), one of which communicates with the front burner housing on a left side, and the other one of which communicates with the front burner housing on a

right side (every exhaust duct in the system as taught by Morse is capable of communicating since the system is open and not restrained or controlled by valving).

In regards to claim 26, Morse teaches the exhaust system of claim 12, wherein the two rear exhaust ducts (the rear burners 6 and 10 each have exhaust ducts 52) communicate with rear parts of the rear burner housing (every duct in the exhaust system of Morse is capable of communication between each other since the exhaust system is open and not constrained by valving means), respectively.

In regards to claim 27, Morse teaches a radiation gas range comprising the exhaust system of claim 13 (see rejection of claim 13 and note that the stove assembly of Morse is a radiation gas range).

In regards to claim 28, Morse teaches the exhaust system of claim 12, wherein the cover comprises a sheet of glass (glass plate 30, Fig. 3).

In regards to claim 29, Morse teaches the exhaust system of claim 13, wherein the two front radiation burners (4 and 8) and two rear radiation burners (6 and 10) are provided in lower parts of the front and rear burner housings (front and rear burners of Morse are positioned under glass plate 30 in the lower part of the burner housings), respectively.

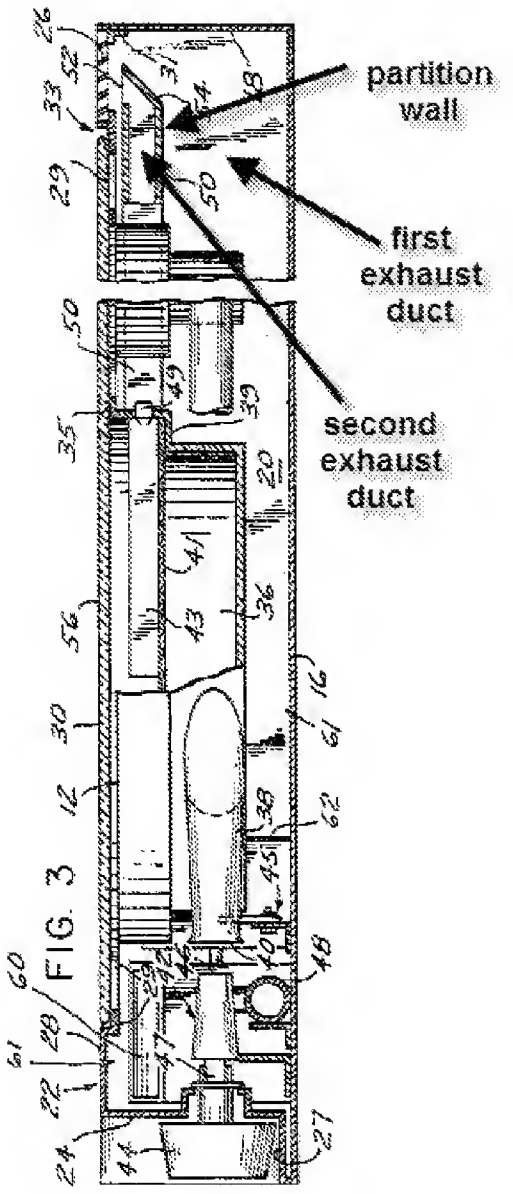

FIG. 3

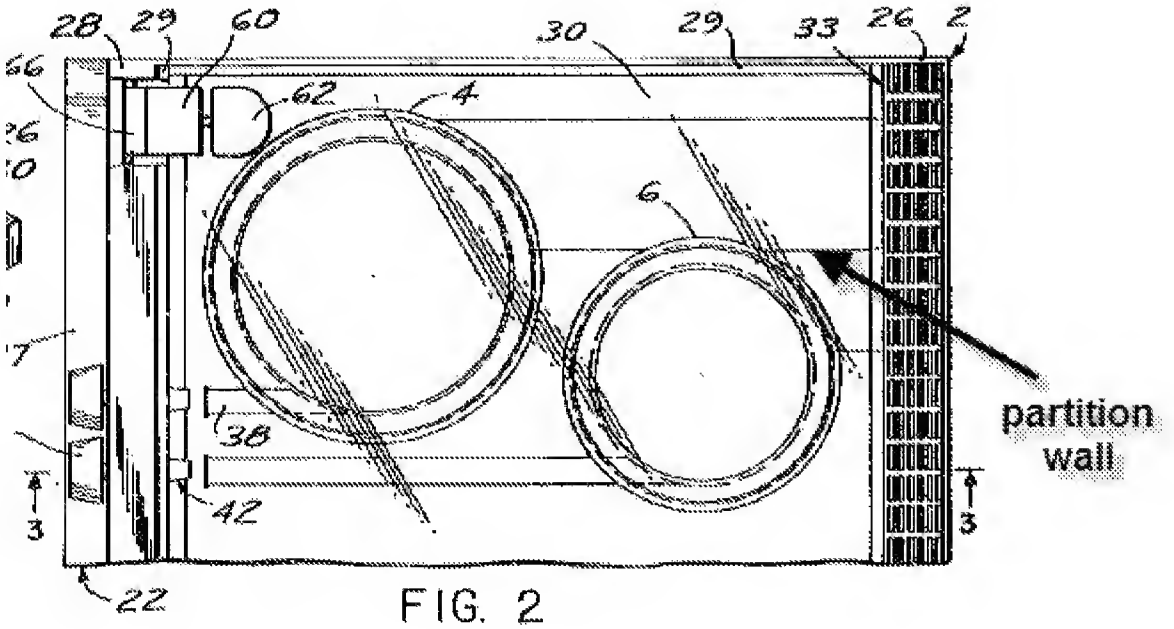

FIG. 2

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 2-3 and 14-15 rejected under 35 U.S.C. 103(a) as being unpatentable over Morse in view of US 6,230,701 to Schultheis et al.

In regards to claim 2, Morse teaches the exhaust system as claimed in claim 1, wherein two sets of each of the front and rear burner housings (Fig. 1 shows 2 front and 2 rear burners which all have separate burner housings), and the front and rear radiation gas burners are provided. Morse does not teach wherein the exhaust duct is

arranged at a central part of the housing to pass between the front radiation gas burners and between the rear radiation gas burners.

Schultheis teaches an exhaust duct that is arranged at a central part of the housing to pass between the front radiation gas burners and between the rear radiation gas burners (see Fig. 5 10 and 10a).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Morse with Schultheis for the purpose of disposing the exhaust duct centrally in the stove housing. It would have been obvious to combine Morse and Schultheis, because rearranging the ducts to be located centrally is an obvious design choice that would not lead to unexpected results or undue experimentation. Modifying Morse so that the ducts are central would not change how the gas was exhausted out of the stove but would rather change the direction in which the exhaust flows out of the stove. Therefore, this design choice would merely change how the ducts were oriented inside the stove housing and would have been an obvious option to someone of ordinary skill in the art at the time of the invention.

In regards to claim 3, Morse in view of Schultheis discloses the exhaust system as claimed in claim 2, further comprising a partition wall (partition wall, annotated Fig. 3 of Morse) at a central part of each of the exhaust ducts (the partition wall is substantially located at a central part of each exhaust duct), that divides each of the first and second exhaust (ducts?) into two (the partition wall as shown in annotated Fig. 3 divides the first and second exhaust duct).

In regards to claim 14, Morse discloses the exhaust system as claimed in claim 13, but does not teach wherein the exhaust duct is arranged at a central part of the housing to pass between the front radiation gas burners and between the rear radiation gas burners.

Schultheis teaches an exhaust duct that is arranged at a central part of the housing to pass between the front radiation gas burners and between the rear radiation gas burners (see Fig. 5 10 and 10a).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine Morse with Schultheis for the purpose of disposing the exhaust duct centrally in the stove housing. It would have been obvious to combine Morse and Schultheis, because rearranging the ducts to be located centrally is an obvious design choice that would not lead to unexpected results or undue experimentation. Modifying Morse so that the ducts are central would not change how the gas was exhausted out of the stove but would rather change the direction in which the exhaust flows out of the stove. Therefore, this design choice would merely change how the ducts were oriented inside the stove housing and would have been an obvious option to someone of ordinary skill in the art at the time of the invention.

In regards to claim 15, Morse in view of Schultheis discloses the exhaust system as claimed in claim 14, further comprising a partition wall (partition wall, annotated Fig. 2 of Morse) at a central part of the exhaust duct (the partition wall is substantially located at a central part of each exhaust duct), that divides the exhaust duct into two parts (the wall between the two ducts separates them from one another, annotated Fig.

2), one of which communicates with the front burner and the rear burner on a left side (since the system is open, each exhaust duct is capable of communicating with any other duct, so the left and ride side ducts are all in communication), and the other one of which communicates with the front burner and the rear burner housing on a right side.

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL A. BERNSTEIN whose telephone number is (571)270-5803. The examiner can normally be reached on Monday-Friday 8:00 AM - 5:00 PM EDT.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DAB

/Kenneth B Rinehart/
Supervisory Patent Examiner, Art Unit 3743